

Review

Linear Equation
Tables
Graphs
Rates

Independent & Dependent Variables
Constant Difference
Literal Equations
Unit Rates

Chapter 5

A **relation** is a set of ordered pairs. The **domain** of a relation is the set of all first coordinates of the ordered pairs, and the **range** of a relation is the set of all second coordinates.

$\{(-2, -3), (-1, -1), (0, 1), (1, 3)\}$ is a relation $\{ \}$ of a set of (x, y) 's

Domain: $\{-2, -1, 0, 1\}$

Range: $\{-3, -1, 1, 3\}$

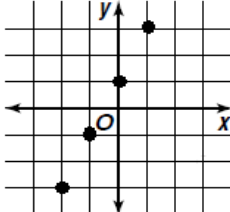
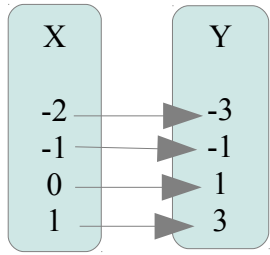
The inverse of a relation $\{(x_1, y_1), (x_2, y_2), (x_3, y_3)\}$ is $\{(y_1, x_1), (y_2, x_2), (y_3, x_3)\}$

Helpful Memory Techniques

Alphabet A, B, C, **D**omain, E, F,O, P, Q, **R**ange, S,W, **X**, **Y**, Z

- Domain is to X as Range is to Y.
- The letter D comes before the letter R.

The relation $\{(-2, -3), (-1, -1), (0, 1), (1, 3)\}$ can be represented in each of the following ways.

Ordered Pairs	Table		Graph	Mapping
$(-2, -3)$ $(-1, -1)$ $(0, 1)$ $(1, 3)$	x	y		
	-2	-3		
	-1	-1		
	0	1		
	1	3		

Function? Yes!

Mapping is a visual technique to identify functions.

A **function** is a *relation* that has all a set of ordered pairs where the first element $x_{\#}$ is paired with exactly one $y_{\#}$ for that number, $\#$.

x	0	6	12	0
y	0	5	10	15

Not, a function because of points $(0, 0)$ & $(0, 15)$.

